

Salticidae from the Himalayas. The genus *Bianor* Peckham & Peckham 1885 (Arachnida: Araneae)*

Piotr Jastrzębski

Katedra Zoologii, Akademia Podlaska, Prusa 12, 08–110 Siedlce, Poland.

E-mail: pjast@ap.siedlce.pl.

Abstract — *Bianor nexilis* sp. n. and *Bianor tortus* sp. n. are described from Nepal, Bhutan and India. Both species are diagnosed, described and illustrated. A list of species of the genus *Bianor* from the Himalayas is given.

Key words — jumping spiders, Salticidae, *Bianor*, Himalayas, new species

Introduction

The Himalayas, being under Oriental and Palearctic influence, offer a huge variety of habitats and climatic conditions and various zoogeographical elements can be found there. The unique topography, the ecological variability, the effective isolation of different habitats and climatic zones; all provide excellent conditions for micro- and macro-evolution, resulting in the taxonomic richness of many groups of plants and animals (Martens, 1979; Prószyński, 1980).

This is the next paper from series, which aim is a complete taxonomic study of the Himalayan salticid fauna and its zoogeographical and evolutionary analysis. This paper deals with the genus *Bianor*.

Material and Methods

Material for this study was provided by:

- Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt a. M. (Prof. J. Martens, Mainz) (SMF),
- Naturhistorisches Museum, Basel (Dr W. Wittmer, Dr O. Stemmler, Dr C. Baroni-Urbani and Dr M. Würmli) (NHMB),
- American Museum of Natural History, New York (Prof. N. Platnick) (AMNH).

Abbreviations used: AEW = anterior eye width, AL = abdomen length, CL = cephalothorax length, CW = cephalothorax width, EFL = eye field length, PEW = posterior eye width, pm = prolateral metatarsal spines, pt = prolateral tibial spines, rm = retrolateral metatarsal spines, rt = retrolateral tibial spines. The format of leg spination follows Platnick & Shadab (1975). All measurements are in

mm.

Descriptions of species

Genus *Bianor* Peckham & Peckham 1885

Bianor Peckham & Peckham 1885, p. 178; Żabka 1985, p. 201; Berry et al. 1996, p. 220; Logunov 2001, p. 225.

The genus *Bianor* was established by Peckham & Peckham 1885, for *Bianor maculatus* as a type species. At present the genus includes 24 nominal species (Prószyński 2007) known from Africa, Asia, Australia and the Pacific islands. Despite the revision by Logunov (2001) the taxonomic status of some species still remains unclear due to missing type specimens or to intraspecific variation.

Both morphological and molecular studies revealed that the genus represents the subfamily Pelleninae and is related to *Habronattus* F. O. Pickard-Cambridge 1901, *Harmochirus* Simon 1885, *Havaika* Prószyński 2002, *Microbianor* Logunov 2001, *Modunda* Simon 1901, *Pellenes* Simon 1876 and *Sibianor* Logunov 2001 (Prószyński 1976; Maddison & Hedin 2003).

The genus *Bianor* is represented in the Himalayas by the following species:

Bianor angulosus (Karsch 1879): India, Sri Lanka, SE Asia (Żabka 1985: as *B. hotingchiehi*, *B. simoni*; Logunov 2001), China (Peng et al. 1993; Song et al. 1999: as *B. hotingchiehi*; Logunov 2001) and Bhutan (Logunov 2001).

Bianor incitatus Thorell 1890: India, Sri Lanka, Thailand (Logunov 2001), China (Peng et al. 1993; Song et al. 1999: as *B. maculatus*), Java, Borneo, Japan (Logunov 2001) and Bhutan (Logunov 2001).

Bianor nexilis sp. n.: Bhutan, here.

Bianor pseudomaculatus Logunov 2001: India (Logunov

* Results of the Himalaya Expeditions of J. Martens No. 246. - For No. 245 see: Bonner Zoologische Beiträge **51**: 109–118, 2003. J. M. sponsored by Deutscher Akademischer Austauschdienst and Deutsche Forschungsgemeinschaft.

2001), Vietnam (Žabka 1985: as *B. maculatus*; Logunov 2001) and Bhutan (Logunov 2001).

Bianor tortus sp. n.: Nepal and India (Assam), here.

***Bianor nexilis* new species**
(Figs 1–4)

Etymology. From the Latin word: *nexilis* meaning complex, intertwined.

Type series. Holotype, ♀ (NHMB): Bhutan, Wangdi Phodrang, 1300 m, 7 June 1972, W. Wittmer, O. Stemmler, C. Baroni-Urbani, M. Würmli leg.

Diagnosis. Colouration and genitalia distinctive: cephalothorax light brown, abdomen white with grey spots and elongate central stripe, legs pale yellow, only I light brown, all joints darker. Central epigynal pocket elongate, with very thick walls, insemination ducts short, thick-walled.

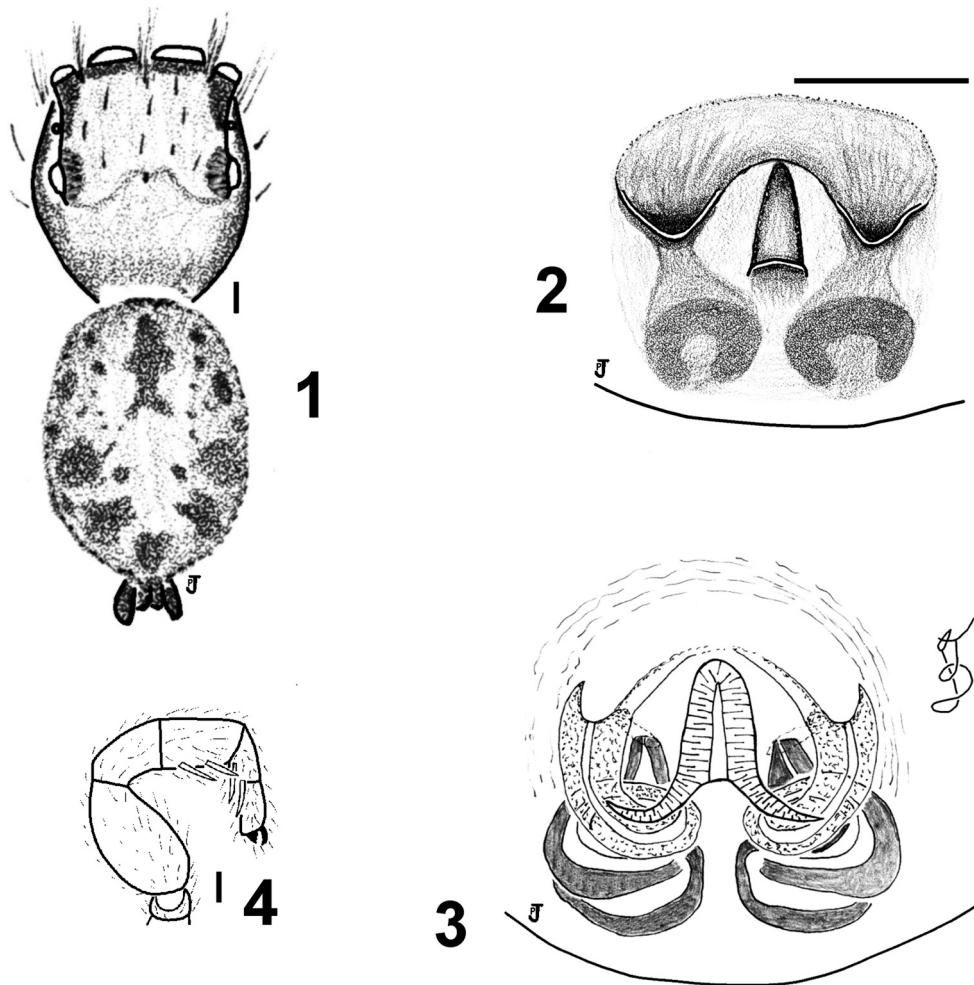
Description. Female (holotype). Cephalothorax light brown with a few dark hairs, area surrounding eyes black. A narrow marginal band of white hairs present. Abdomen

white with small grey spots and anterior longitudinal dark stripe. Spinnerets grey. Clypeus light brown covered with dense, short white hairs. Chelicerae light brown. Maxillae and labium dark brown with white tips. Sternum light brown with dark dots. Venter white. Pedipalps white. Epigynum with elongate, narrow and thick-walled central pocket. Copulatory openings cup-like. Insemination ducts shorter than in *B. tortus*, their walls thick, weakly sclerotized. Spermathecae shorter than in *B. tortus*, their walls thicker, moderately sclerotized. Accessory glands invisible. Legs I light brown, the others pale yellow; all with sparse white hairs; all joints darker. Scopulae absent.

Leg spination: tI: p1-1, r1-1; mI: p1-1, r1-1; tII: p1-1, r1-1; mII: p1-1, r1-1.

Measurements: CL 1.26, CW 1.23, EFL 0.64, AEW 0.97, PEW 1.05, AL 1.53.

Male unknown.



Figs. 1–4. *Bianor nexilis* sp. n. (holotype, female). 1. Dorsal aspect; 2. epigynum, ventral view; 3. internal genitalia, ventral view; 4. left first leg, lateral view. Scale: 0.2 mm.

***Bianor tortus* new species**
(Figs 5–12)

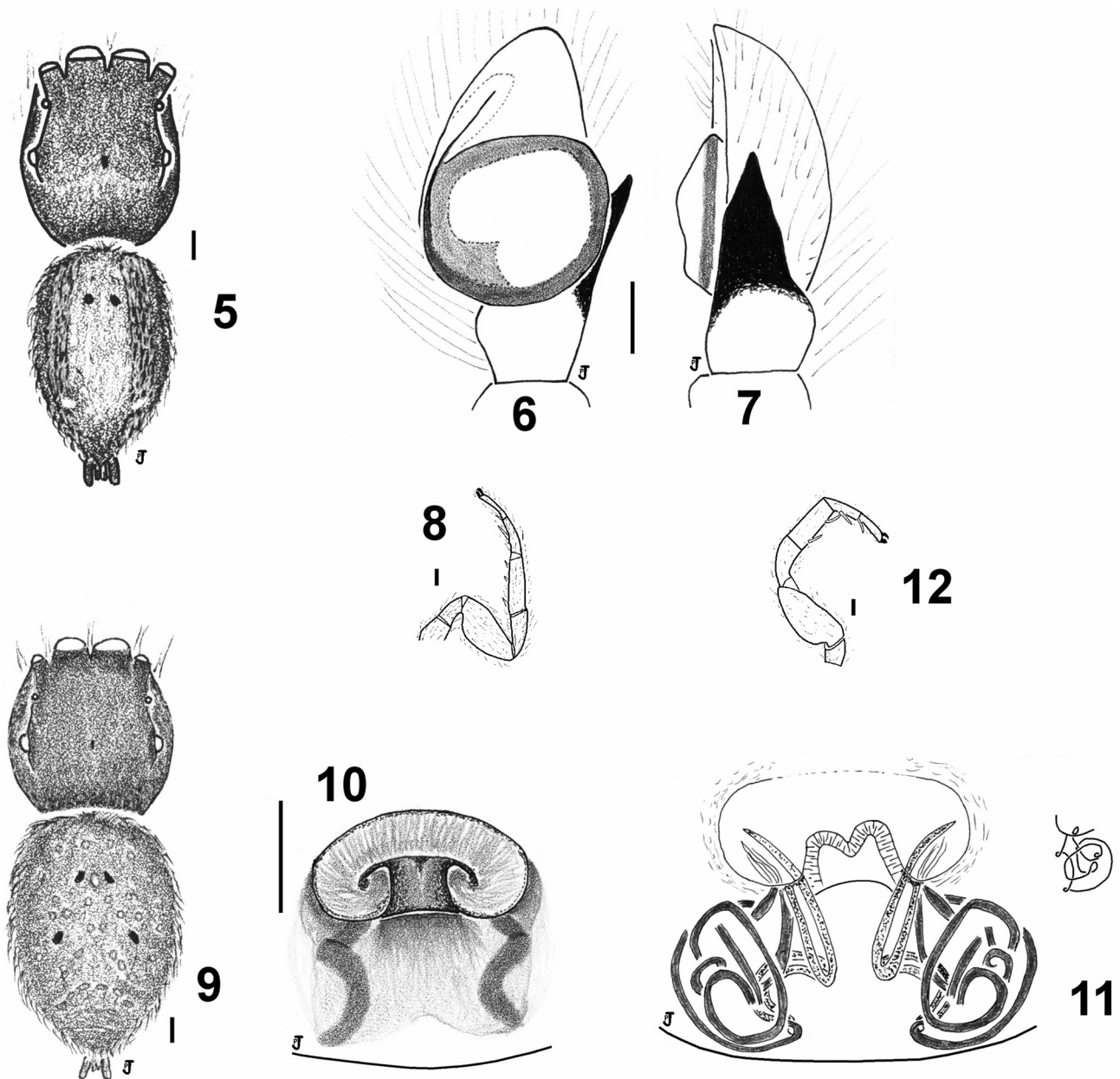
Etymology. From the Latin word *tortus* meaning winding, complicated.

Type series. Holotype, ♂ (SMF): Nepal: Ilam Distr., from Kutunabari (230 m) to Siwalik Mts. pass (320 m) and downhill (240 m), mixed Shorea forest, river beds, 6 April 1988, Martens & Schawaller leg. Allotype, ♀ (SMF): Nepal: Ilam Dist., Sanishare, 5 km N, feet of Siwalik Mts., 270–300 m, mixed Shorea forest, 3–5 April 1988, Martens &

Schawaller leg.

Other specimen examined. Nepal: 1♀ (SMF), Gorkha Distr., Darondi Khola between Doreni and Motar, 750–900 m, forest/cultivations, 13 August 1983, Martens & Schawaller leg.; 1♀ (SMF) Tanhu Dist., Marsyandi, 600 m, under Purkot, Gerinne, 8 April 1980, Martens & Ausobsky leg.; India: 1♂ (AMNH), Assam: Misamari, March 1944, A.-C. Cole leg.

Diagnosis. In comparison to related *B. albobimaculatus*, *B. pseudomaculatus* and *B. incitatus* male palpal tegulum with small membranous area and tibial apophysis elongate and very large. Female cephalothorax black, epigynum with



Figs. 5–12. *Bianor tortus* sp. n. (holotype, male; allotype, female). 5. Dorsal aspect of male; 6. left palpal organ, ventral view; 7. same, lateral view; 8. left first leg of male, lateral view; 9. dorsal aspect of female; 10. epigynum, ventral view; 11. internal genitalia, ventral view; 12. left first leg of female, lateral view. Scale: 0.2 mm.

short, wide central pocket, bipartite at the top. Leg coloration of both sexes distinctive, too.

Description. Male (holotype). Cephalothorax dark brown with a margin of sparse white hairs. Abdomen dark brown with two longitudinal stripes of white hairs; dorsum with a small white anterior spot and two small white spots in the posterior part. Spinnerets brown. Clypeus, chelicerae, maxillae and labium brown. Venter grey. Pedipalps dark brown, patellae with dorsal white scales. Cymbial tip light. Bulbus oval. Embolus thin, set laterally. Tibial apophysis triangle, long, flat, its base wide. Legs I brown, femora darker; II – dirty brown, metatarsi and tarsi yellow; III – light brown, femora darker; IV – dirty brown, metatarsi: anterior part light yellow, posterior ones darker, tarsi pale yellow.

Leg spination: tI: p0-0-0, r1-1-1; mI: p0-0, r1-1.

Measurements: CL 1.35, CW 1.32, EFL 0.73, AEW 1.05, PEW 1.26, AL 1.68.

Female (allotype). Cephalothorax black, its sides and thoracic part covered with white hairs. Abdomen dark grey with white dots, posterior part with two symmetrical white spots, whole covered with white short and dark longer hairs. Spinnerets brown. Clypeus brown with a fringe of dense white hairs. Chelicerae brown. Maxillae light brown with white tips. Labium and sternum brown. Venter grey. Pedipalps light brown with white and dark long hairs. Epigynum with shallow central pocket, its tip bipartite. Copulatory openings narrow, elongate. Insemination ducts long, thin, weakly sclerotized. Spermathecae long, thin, twisted, weakly sclerotized. Accessory glands invisible. Legs: femora I – dark brown, II-IV – dirty brown; patellae and tibiae – brown; metatarsi and tarsi: I – light brown, II-IV – pale yellow. Scopulae absent.

Leg spination: tI: p1-1, r1-1; mI: p1-1, r1-1; tII: p1-1, r1-1; mII: p1-1; r1-1.

Measurements: CL 1.52, CW 1.65, EFL 0.82, AEW 1.23, PEW 1.56, AL 2.43.

Acknowledgments

Prof. J. Martens (Mainz), Dr W. Wittmer, Dr O. Stemmler, Dr C. Baroni-Urbani, Dr M. Würmli (Basel) and Prof. N. Platnick (New York) provided specimens for study. Prof. M. Żabka (Siedlce) critically reviewed the manuscript.

References

- Berry, J. W., Beatty, J. A. & Prószyński, J. 1996. Salticidae of the Pacific Islands. I. Distribution of twelve genera, with description of eighteen new species. *J. Arachnol.*, 24: 214–253.
- Logunov, D. V. 2001. A redefinition of the genera *Bianor* Peckham et Peckham, 1885 and *Harmochirus* Simon, 1885, with the establishment of new genus *Sibianor* gen. n. (Aranei: Salticidae). *Arthropoda Selecta*, 9: 221–286.
- Maddison, W. P. & Hedin, M. C. 2003. Jumping spider phylogeny (Araneae: Salticidae). *Invertebrate Systematics*, 17: 529–549.
- Martens, J. 1979. Die Fauna des Nepal-Himalaya - Entstehung und Erforschung. *Natur und Museum*, 109: 221–243.
- Peckham, G. W. & Peckham, E. G. 1885. Genera of the family Attidae: with the partial synonymy. *Trans. Wisc. Acad. Sci. Arts Let.*, 6: 255–342.
- Peng, X. J., Xie L. P., Xiao, X. Q. & Yin, C. M. 1993. Salticids in China. Hunan Normal University Press. Changsha, Hunan, 270 pp.
- Platnick, N. I. & Shadab, M. U. 1975. A revision of the spider genus *Gnaphosa* (Araneae: Gnaphosidae) in America. *Bul. Am. Mus. Nat. Hist.*, 155: 1–66.
- Prószyński, J. 1976. Studium systematyczno-zoogeograficzne nad rodziną Salticidae (Aranei) regionów Palearktycznego i Nearktycznego. *Rozprawy WSP, Siedlce*, 260 pp.
- Prószyński, J. 1980. A hypothesis on the origin of continental faunas based on the research on subtropical Himalayan Salticidae. *Proceedings of the 8th International Congress of Arachnology*, Wien: 451–543.
- Prószyński, J. 2007. Monograph of the Salticidae (Araneae) of the World. <http://www.miiz.waw.pl/salticid/main.htm> (Version revised in part on January 7th, 2007).
- Song, D. X., Zhu, M. S. & Chen, J. 1999. The Spiders of China. Hubei Science and Technology Publishing House, Hubei, 640 pp.
- Żabka, M. 1985. Systematic and zoogeographic study on the family Salticidae (Araneae) from Viet-Nam. *Ann. Zool. Warsz.*, 11: 1–485.

Received January 23, 2007 / Accepted May 8, 2007